KESWICK

URBAN SANITARY DISTRICT.

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

FOR THE YEAR 1911.

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REPORT.

TO THE KESWICK URBAN DISTRICT COUNCIL.

GENTLEMEN,---

I have the honour of presenting to you my Annual Report on the health of the district for the year 1911.

It has been a year marked by important advances in sanitary administration and legislation, but chiefly will it be remembered as the year in which the Housing and Town Planning Act first became a vitalizing force in our midst, making for the healthier and better surroundings of all, but especially directed towards improving the sanitary conditions of the dwellings occupied by the working classes and the poor.

The scope of this report is prescribed by the Local Government Board, and I must ask your indulgence if it contains much that is common knowledge to us all.

A. Natural and Social Conditions.

(1). *Physical Features.*---Keswick is situated some 300 feet above sea level and covers an area of 1,068 acres. It is sheltered on the north by Skiddaw, while to the south lie the Borrowdale hills with Derwentwater intervening. Along its borders, north and west, runs the rapidly flowing river Greta.

The subsoil consists of glacial drift of varying depth, overlying the Skiddaw slate, with here and there masses of boulder clay or gravel beds interposed.

The prevailing winds are from the S. and S.W. The average yearly rainfall is 58·818 inches, and the sunshine 1333 hours 40 minutes. Complete records of the former, kindly supplied by Mr. A. Mitchell-Dawson, and of the latter for which I am indebted to Mr. H. Swinburn, will be found among the tables, but one cannot but notice in passing the extremely low rainfall of July and August, with its corresponding increase during October, November, and especially December.

(2). *The Social Conditions and Occupations* of the inhabitants are mainly conducive to good health. Housing accommodation is amply sufficient, and work---quarrying, pencil making,

boating, driving, &c.---is not of an injurious nature. There is, nevertheless, a good deal of unemployment, and the want of scope for young men's energies and ambitions has led to very free emigration during the last few years.

The amount of poor law relief is comparatively small and the ever present call for help in times of sickness or accident is well met by the Mary Hewetson Cottage Hospital with its 12 beds, by the two district Nurses, and by the local division of the St. John Ambulance Brigade, towards the expenses of which a grant has been made by this Council.

B. Sanitary Circumstances.

(a). *The Water Supply* has its source in reservoirs on the breast of Skiddaw which are fed by springs and watercourses. It has been constant throughout the year, the reservoirs overflowing even during the height of the drought.

As regards quality it is as pure a natural water as it is possible to find, and, in spite of its softness, has no injuriously solvent action upon lead.

It is carried at high pressure to all parts of the district with the exception of cottages at the Forge which have their own supply, and this has never been found seriously at fault.

(b). *Rivers and Streams.*---The river Greta suffers very little pollution, and this is becoming yearly less. There are, however, isolated cases in which W.C's. and pig-stys drain directly into it.

(c). *Drainage and Sewerage.*---Sewers are carried to all parts of the district, with only the few exceptions where engineering difficulties prohibit this. They are ventilated by street grids and also by the soil pipe ventilators, it being the exception to fix intercepters between the house drains and the sewer.

Sewage purification is efficiently carried out by means of a system of septic tanks and constant filtration.

(d). *Closet Accommodation.*---Water Closets are now universal except in places which the sewers cannot reach and here the privy system is adopted and supervised by the Sanitary Authority.

The result of inspection shows that in much of the cottage property the number of W.C's. is insufficient, and the standard of at least one to three cottages is now being enforced.

(e). *Scavenging*.---House refuse is collected twice a week from dustbins and deposited on the land.

The tenure of the original ashbank at the Cass having expired and pending the completion of negotiations for a more permanent site, the ashes are now, by kind permission of the owner, being deposited on ground near the old targets, well out of the district.

(f). *Sanitary Inspections of District* have been systematically carried out and special inspections repeatedly made where called for.

The Sanitary Inspector reports that he has flushed the sewers regularly and carried out repairs where required. On three occasions he has tested house drains; on twelve, cleaned out blocked drains and sewers; and on two made new connections with the sewer.

He has carefully supervised the sewage disposal works and has had the pumping plant thoroughly overhauled and repaired.

Fifteen houses have been disinfected by him on account of infectious illness. He has superintended the removal of cases to hospital and seen to the necessary upkeep of its building, grounds and water supply. The following Statutory Notices have been served by him :---

1. Six for nuisances arising in connection with middens---All complied with.
2. Five for overcrowding---Three of these already complied with; two under supervision pending new arrangements.
3. One to supply a suitable receptacle for slaughter house garbage---This was complied with.

He further reports that there are five petrol stores under his supervision; that plans for three new houses have been passed

by the Council, and for fourteen additions or alterations to existing buildings, chiefly of the nature of W.C., Bathroom and Washhouse accommodation.

(g). *Premises and Occupations which can be controlled by Bye-laws.* The Slaughter Houses, of which there are six, have been regularly inspected and found well kept. Some of them are structurally ill adapted and situated for the purpose, and in several instances nuisances have arisen through offal having been cast on the midden instead of being placed in proper receptacles, and for these and other reasons, such as ease of supervision and prevention of cruelty to animals, it would be a distinct advance to have a public slaughter house.

Only one common lodging house now exists, which, in several respects, is far from complying with the bye-laws. The idea of erecting a new building on model lines has not been lost sight of, but the difficulties of procuring a suitable site have so far proved insurmountable.

(h). *Schools* ---The Sanitary condition of the Elementary Schools has given no ground for complaint. During the Autumn an extensive outbreak of Chicken-pox necessitated the closing of the infant department of St. John's School for a fortnight, and early in December Whooping Cough made its appearance in the corresponding department at High Hill, where the vast majority of the children were unprotected by a previous attack, and where closing for the remainder of the term was found necessary in order to prevent further spread of the disease. In neither case were the older children affected. The medical inspection of children is in the hands of the County Medical Officer of Health and his assistants.

Food - (a) *Milk Supply.*---The sources of the milk supply, whether within or beyond the Urban District, are visited each quarter by the Veterinary Inspector who has on each occasion reported that the cattle are in good condition and free from disease, and further, that the byres are clean and well kept and that additional air space has been provided in several instances.

(b). *Other Foods* ---On one occasion the sale of butter coming from premises infected by Scarlet Fever was prohibited. No other foods have been found faulty. The bakehouses have been regularly inspected. In one case limewashing had been neglected and in another the bye-laws were not exhibited. Both these defects were ordered to be made good.

The meat supply has always been found good and free from tubercle.

Housing.—Ninety-three houses have been inspected under the Housing and Town Planning Act, including Derwent Street, Police Station Yard, Gatey's Court, Atkinson's Court, Museum Square, Pear Tree Lane, Dover's Court, Heads Lane, Tithebarn Street, and part of Main Street.

Of these, six in Derwent Street were found unfit for human habitation, and, after a closing order had been made, were demolished. In others want of light and ventilation and insufficiency of W.C. accommodation were the chief defects found, and substantial improvements have resulted in all these directions.

The accommodation for artizans and labourers is fully adequate, though much of the older cottage property is crowded together or built back to back. Newer houses for the same classes are of a much better type, and in many cases, by providing accommodation for summer visitors, people are enabled to live in larger and healthier houses than they could otherwise afford.

The want of proper washhouses is often badly felt, and I should be glad to see bye-laws introduced enforcing their provision, while others might be added with advantage, prescribing the minimum size of living rooms and enforcing the attachment of ventilating shafts to gas geysers, the want of which has at times almost led to fatal suffocation.

Plans for the erection of new houses are carefully inspected before being passed and a certificate is required from the Surveyor before new buildings can be occupied. Special attention has been called to the necessity of preserving as much space about buildings as possible by the rigid enforcement of the bye-laws dealing with this matter.

Workshops, Workplaces, &c.---The following table of inspections &c., explains itself :---

1. Premises	Inspections.	Written Notices	Prosecutions.
Factories ...	4	...	...
Workshops ...	4	...	...
Workplaces ...	4	...	...
Total ...	12	...	...

2. Defects Found.---*Breach of special sanitary requirements for Bakehouses.*

	Result.
For not being limewashed, 1 - -	Remedied.

No. of Registered Workshops---

Bakehouses - - - -	12
Workshops and Factories - - - -	42
Total on Register -	54

C. Sanitary Administration of the District.

1. The work of the Inspector of Nuisances---see B. *e*
2. Hospital Administration.

Whinlatter Hospital.---There have been only five cases admitted during the year, viz. : four of Scarlet Fever, all of which were discharged recovered after an average period of six weeks ; and one of Enteric, discharged recovered and free from infection, as shown by bacteriological analysis of urine and fæces, at the end of six weeks.

The general administration of the Hospital as regards nursing, caretakers and medical attendance, remains unchanged.

White Moss Small-pox Hospital provides accommodation for four cases with sufficient ground space for the erection of tents or temporary buildings should they be required.

3. The local and adoptive acts in force in the district are :

The Keswick Gas Act, 1888.

The Keswick Urban District Council (Water) Act, 1907.

The Public Health Amendment Act, 1890.---Parts I, III and V.

The Infectious Disease Prevention Act, 1890.

The Public Health Acts Amendment Act, 1907, except parts VII, VIII and IX.

4. Chemical and bacteriological work.---Specimens submitted to the Lister Institute for analysis.

Nature.	Number.	Result.	
		Positive.	Negative.
Swabbings from cases suspected of Diptheria	17	5	12
Blood from cases of suspected enteric (Widal reaction).	2	1	1
Sputum from cases of suspected Pulmonary Tuberculosis	4	1	3

D. Prevalence of, and control over, Acute Infectious Disease.

Only 13 cases have been notified under this heading. These included Scarlet Fever 4, Diphtheria 4, Erysipelas 4, and Enteric Fever 1. Measles, Chicken-pox, and Whooping Cough are not notifiable.

Scarlet Fever.— One case arose in a house which fourteen months previously had been similarly infected and may possibly have been due to the stripping of old wallpaper. The origin of the others was obscure. They occurred at intervals in widely separated parts of the district and there was no evidence of personal infection either in or out of school. All were removed to hospital.

Diphtheria.—In three cases minor and in one gross, sanitary defects were found as possible causes. In all, the diagnosis was confirmed by bacteriological analysis, and quarantine maintained until freedom from infection was proved by the same means. There being sufficient home isolation in each case, removal to

hospital was considered unnecessary. Antitoxin was supplied gratuitously.

Erysipelas.---Here, on investigation, no sanitary defects were discovered as causes, nor could the infection be otherwise accounted for.

Enteric Fever.---This is a disease almost unknown in this district, and the case in which it arose can only be accounted for on the supposition that infection had been contracted outside by means of food or drinking water. The patient was removed to Whinlatter Hospital and every precaution taken to prevent further spread of the infection.

In all cases of notifiable infectious disease the necessary disinfection is carried out by the Sanitary Inspector, and with evident success, in spite of the fact that no steam disinfector is available. In addition, the children are excluded from school or the schools closed, wholly or partially, according to the principle laid down in the memorandum of the Local Government Board on the subject.

Measles.---A few scattered cases occurred during the summer, probably imported by visitors, but fortunately the schools escaped and no epidemic took place. An application was made for the admission of one of these cases into Whinlatter Hospital, but after due consideration the Council felt obliged to refuse it on the ground of there being insufficient accommodation.

Mention has already been made of outbreaks of Chicken Pox and Whooping Cough In the latter case the original source of infection could pretty certainly be traced to a child visitor who came suffering from the disease to stay with friends.

E. Prevalence of, and Control over, Tuberculosis.

Six cases of Pulmonary Tuberculosis have been notified. One, that of a vagrant, under the regulations of 1908, and five of residents treated in the Sanatorium under the 1911 regulations, and of these latter, two were school children and three adults.

In each case the houses were visited and steps taken to improve sanitary conditions and provide for disinfection where required. In none was the infection traced to a previous case.

The Blencathra Sanatorium, in which a free bed is maintained by rates and voluntary subscription, affords isolation, treatment, and education in preventive measures, for one, and, occasionally, two cases at a time. All those which went were much benefited. Four of them were early cases and one intermediate. Two remained under treatment at the end of the year. The Sanatorium is not intended for advanced cases, and it is to be regretted that no special accommodation is available for this class.

G. Means of Preventing Mortality in Childbirth and Infancy.

Six deaths under one year, giving an infantile mortality of only 80 per 1000 births, have been recorded. One resulted from Whooping Cough, but none from any other contagious disease, and in spite of the exceptional heat and drought of the summer, diarrhœa and its allies did not appear among the causes.

The notification of Births Act is not in force. Parents are, however, instructed in points connected with the healthy bringing up of infants by means of printed cards, which are supplied at the time of registration.

There are no midwives practising as such in the district.

H. Vital Statistics.

Some reference must be made to the accompanying tables :---

Table I shows us that though the population was estimated in 1910 at 4,500, the census of 1911 proved it to be only 4,403, a decrease of 48 on the census of 1901, which may be accounted for partly by a declining birth rate and partly by emigration.

It further indicates a reduction in the number of inhabited houses from 1093 to 1060, and that the death rate for 1911 is only 13·1 per 1000.

By a new system it is now possible to exclude from our calculations the deaths and births of all non-residents occurring in the district, and at the same time to include those which may

be considered our own residents which have occurred elsewhere. This tends to the greater accuracy of statistics.

Table II shows to what a slight extent infectious disease affects the district.

Table III is encouraging as showing a decrease of 9 over the previous year in the number of deaths from all causes. It also points to a reduction of cancer deaths by half and brings out the fact that of the total deaths exactly half were in persons over 65 years of age. A reduction of 2 is shown in deaths from Phthisis, and in only one case, that of Whooping Cough, does acute infectious disease appear as a cause.

Table IV indicates a decrease in the number of deaths among infants by 3 on the previous year, and it is satisfactory to note that none of the 6 which occurred could be attributed to the neglect which so often follows illegitimacy.

Thanking you, gentlemen, for your kind consideration and support through another year.

I am,

Your obedient servant,

J. R. BURNETT,

Medical Officer of Health.

RAINFALL IN 1911, AT SHU-LE-CROW HOUSE, KESWICK.

Height above sea level, 296ft.

	Total Depth.	Greatest fall in 24 hours.		No. of days upon which ·01 in fell or more.
	Inches.	Depth.	Date.	
January ...	3·21 ...	·95 ...	10th ...	17
February ...	7·45 ...	1·52 ...	18th ...	17
March ...	1·99 ...	·65 ...	1st ...	18
April ...	4·49 ...	·90 ...	19th ...	16
May ...	4·98 ...	1·49 ...	3rd ...	11
June ...	6·52 ...	3·16 ...	24th ...	14
July ...	1·07 ...	·32 ...	20th ...	12
August ...	3·92 ...	1·00 ...	5th ...	14
September ...	3·93 ...	1·31 ...	19th ...	14
October ...	6·91 ...	3·43 ...	29th ...	14
November ...	8·74 ...	1·86 ...	3rd ...	23
December ...	13·68 ...	1.48 ...	18th ...	28
	66·89			198

Yearly average here for past 39 years, 58·818 inches upon 208·077 days.

Highest yearly fall in this period, 84·57 inches upon 252 days in 1903. Lowest, 42·34 inches upon 172 days in 1887.

ANNUAL SUNSHINE RECORD FOR 1911.

Month.	Hrs.	Mins.		Days.
January ...	57	50	upon	19
February ...	44	20	,,	15
March ...	136	35	,,	26
April ...	80	50	,,	16
May ...	235	30	,,	26
June ...	228	10	,,	26
July ...	240	40	,,	25
August ...	242	45	,,	31
September ...	190	50	,,	30
October ...	104	20	,,	23
November ...	32	25	,,	10
December ...	19	40	,,	8
Total	1601	55		255
Average for past 9 years	1333	40		266

TABLE I.

Vital Statistics of whole District during 1911 and previous Years.

Year.	Population estimated to Middle of each Year	Births.			Total Deaths Registered in the District.		Transferable Deaths.		Nett Deaths belonging to the District.			
		Un-corrected Number	Nett						Under 1 year of age		At all Ages	
			Number	Rate	Number	Rate	Of Non-residents registered in the District.	Of Resi-dentsnot registered in the Ditsrict	Number	Rate per 1,000 Nett Births	Number	Rate
1	2	3	4	5	6	7	8	9	10	11	12	13
1906	4451	86		19·31	65	14·6					62	13·9
1907	4451	101		22·69	61	13·7					63	14·31
1908	4500	90		20	70	15·5					73	16·2
1909	4500	83		18·4	55	12·2					55	12·2
1910	4500	80		17·7	62	13·7					67	14·8
1911	4403	75	75	17·03	58	13·1	4	4	6	80	58	13·1

Rates in Columns 5, 7, and 13 estimated per 1,000 of the population.

Area of District in acres (exclusive of area covered by water) } 1,068

Total population at all ages, 4,403
Number of inhabited houses, 1,060 } At Census of 1911.
Average number of persons per house, 4·15

TABLE II.

Cases of Infectious Disease notified during the year 1911.

Notifiable.	CASES NOTIFIED IN WHOLE DISTRICT								Removed to Hospital
	At all ages	At Ages—Years							
		Under 1	1 to 5	5 to 15	15 to 25	25 to 45	45 to 65	65 and upwards	
Small-pox									
Cholera									
Diphtheria (including Membranous Croup)	4			4					0
Erysipelas	4					4		1	
Scarlet fever ..	4		2	2					4
Tyhus fever									
Enteric fever ..	1			1					1
Relapsing fever ..									
Continued fever ..									
Puerperal fever ..									
Plague									
Phthisis, under Tuberculosis Regulations, 1908	1			1					0
Phthisis, under Tuberculosis Regulations, 1911	5			2	2	1			0
Others									
Totals	19		2	10	2	4		1	5

Isolation Hospital, Whinlatter, Cockermouth Rural District. Total available beds 10; number of Diseases that can be concurrently treated, 2.

Small-pox Hospital, White Moss, Cockermouth Rural District. Total available beds, 4; number of Diseases than can be concurrently treated, 1.

TABLE III.

Causes of, and Ages at death during the Year 1911.

Causes of Death.	Deaths at the Subjoined Ages.									Total Deaths in Public Institutions
	All Ages	Under 1 year	1 and under 2 years	2 and under 5 years	5 and under 15	15 and under 25	25 and under 45	45 and under 65	65 and upwards	
1	2	3	4	5	6	7	8	9	10	11
All causes { Certified ..	54	6	2	1	1	1	8	9	26	6
All causes { Uncertified ..	4							1	3	
Enteric Fever										
Small-pox										
Measles										
Scarlet Fever										
Whooping Cough ..	1	1								
Diphtheria and Croup ..										
Influenza										
Erysipelas										
Cerebro-Spinal Fever ..										
Phthisis (Pulmonary Tuberculosis)	3						1	2		
Tuberculous Meningitis	1	1								
Other tuberculous diseases	1				1					1
Rheumatic Fever.. ..										1
Cancer, malignant disease	6							3	3	
Bronchitis	2								2	
Broncho-Pneumonia ..	3	1	1						1	
Pneumonia (all other forms)	4						1		3	1
Other diseases of Respiratory Organs	1								1	
Diarrhœa and Enteritis ..										
Appendicitis and Typhlitis										
Alcoholism										
Cirrhosis of Liver ..										
Nephritis and Bright's Disease	1						1			
Puerperal Fever										
Other accidents and diseases of Pregnancy and Parturition										
Congenital Debility and Malformation, including Premature Birth ..	2	2								
Violent Deaths, excluding Suicide	2		1						1	
Suicides										
Apoplexy	5							1	4	
Heart diseases	10						1	2	7	2
Other defined diseases ..	11			1			4	1	5	1
Diseases ill-defined or unknown	5	1				1		1	2	
	58	6	2	1	1	1	8	10	29	6

TABLE IV.

Infantile Mortality during the Year 1911.

Nett Deaths from stated Causes in Weeks and Months under One Year of Age.

CAUSE OF DEATH.	Under 1 week	1—2 weeks	2—3 weeks	3—4 weeks	1—3 months	3—6 months	6—9 months	9—12 months	Total Deaths under 1 year
All Causes { Certified									
All Causes { Uncertified									
Small-pox									
Chicken-pox									
Measles									
Scarlet Fever									
Diphtheria and Croup									
Whooping Cough						1			
Diarrhœa									
Enteritis									
Tuberculous Meningitis ..					1				
Abdominal Tuberculosis ..									
Other Tuberculous Diseases ..									
Congenital Malformations ..									
Premature Birth	1	1							
Atrophy, Debility and Marasmus									
Atelectasis									
Injury at Birth									
Erysipelas									
Syphilis									
Rickets									
Meningitis (not Tuberculous) ..									
Convulsions									
Gastritis									
Laryngitis									
Bronchitis									
Pneumonia (all forms)					1				
Suffocation, overlying									
Other causes	1								
	2	1			2	1			

Population—Estimated to middle of 1911—4,500.

Births in the year { legitimate, 73. illegitimate, 2.

Nett Deaths in the year of { legitimate infants, 6. illigitimate infants, 0.

TABLE V.

Table showing Summary of work done under The Housing (Inspection of District) Regulations, 1910.

1.—Number of Dwelling-houses inspected under and for the purposes of Sec. 17 of the Act of 1909	93
2.—Number of Dwelling-houses which on inspection were considered to be in a state so dangerous or injurious to health as to be unfit for habitation	6
3.—Number of representations made to the Local Authority with a view to making of Closing Orders	6
4.—Number of Closing Orders made	6
5.—Number of Dwelling-houses the defects in which were or are being remedied without the making of a Closing Order ..	About 50
6 —Number of Dwelling-houses which after the making of a Closing Order were put into a fit state for human habitation	
7.—The general character of defects found to exist:—	
(a) Water supply	0
(b) Closet Accommodation	10
(c) Drainage	5
(d) Conditions as regards light, free circulation of air, dampness and cleanliness	20
(e) Paving, drainage, and condition of yard and outhouses	0
(f) Disposal of refuse and ashes	0
(g) Any room coming under Section 17 (7)	0
(h) Other matters rendering house dangerous or injurious to health	0

TABLE VI.

Phthisis: Sanatorium and Hospital Accommodation.

Classes for which Accommodation is provided.	By whom provided.	Where situated.	Total nomber of Beds.	How are patients selected?	Are patients under the care of a resident Medical Officer?	What charge, if any, is made for the use of Beds?	Do the Sanitary Authority use (1) their Isolation Hospital or (2) their Small-pox Hospital for cases of Phthisis?	Do the Sanitary Authority reserve Beds in any Phthisis S'nat'rium, if so, how many, and in what S'nat'rium?	Do the Sanitary Authority provide portable open-air Shelters or Tents?
(a) Early cases ..	Voluntary Contributions supplemented by a grant of £40 per annum from the Council.	Blencathra Sanatorium Threlkeld, Penrith.	1	By a Committee upon which the Council is represented, subject to approval of the Medical Superintendent and on the recommendation of the Medical Attendant of the patient.	Yes.	30/- a week for Adults, 17/6 for Children under 12, provided there is the necessary accommodation	No.	Yes, as stated.	No.
(b) Intermediate cases									
(c) Advanced cases ..									

Have the Council, or any Private Body, provided a Dispensary. If so, give particulars. No.